DEAD TIMESTAMP IDENTIFICATION AND ELIMINATION

ABSTRACT OF THE DISCLOSURE

5   The performance of an application is improved by identifying and eliminating items with dead time-stamps and eliminating work on items with irrelevant time-stamps. An algorithm executing in each node of a task graph computes and propagates guarantees which are used to eliminate both items with dead time-stamps and irrelevant computation on dead time-stamps. A continuous

10   garbage collector eliminates items with dead time-stamps while the node continues to process received items. Unnecessary computations are reduced by automatically discerning the interest set of downstream modules for time-stamps and feeding the interest set back to upstream modules.